A framework for designing strategy content controls

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Abstract *Strategic control has recently been recognized to serve two purposes – to ensure that strategy is implemented as planned and to shape strategy content during implementation. While there are many analytical tools available for designing strategic controls that ensure strategy implementation, there are no comparable tools available for designing strategic controls that shape strategy content during implementation. This paper develops a framework for designing strategic controls that shape strategy content during implementation. The paper also illustrates the framework through brief case examples.*

Introduction

Strategic control systems are among the most fundamental tools of management because of their ability to allow managers to monitor performance and redirect organizational action when necessary. Traditionally, strategic controls have been thought of as systems that help implement strategies as planned. The rapid change in business environments, however, has caused many to reconsider and expand upon this traditional view.

Specifically, it has been recognized that even with the best available information, strategies have to be based in part on assumptions about external conditions such as demand and competition as well as internal factors such as the ability to perform and integrate various activities (Schreyogg and Steinmann, 1987). If these assumptions are wrong, then implementing strategy as planned will not lead to improved performance. In addition, even if assumptions underlying a strategy are valid, environmental changes can bring about new opportunities and threats that undermine strategy (Ansoff, 1980). Consequently, strategic controls have lately been recognized to have two roles – helping implement strategy and shape strategy content (Muralidharan, 1997).

Strategic control systems that play the two roles have been termed strategy implementation control and strategy content control respectively. Despite growing recognition of this expanded role, there is an imbalance in the attention that the two roles of strategic controls receive. This is perhaps best reflected in the scholarly work that addresses design aspects of strategic controls. While there are a number of analytical tools developed for designing strategy implementation controls (see the Appendix for a brief review), there is very little work in developing frameworks for designing strategy content controls. This paper presents a framework for designing strategy content controls, and illustrates the framework through case examples.

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Strategy content control design

Strategy content controls are systems that shape strategy content during the course of implementation. Since invalid assumptions and environmental changes are the two main reasons that a strategy being implemented may have to change, the focus of

strategy content control is on these two factors. Strategy content control therefore has two elements. The first involves evaluating the validity of key assumptions underlying strategy and changing strategy content to reflect new information and assumptions if original assumptions are found invalid. The second aspect involves monitoring the environment to detect changes that may undermine strategy and, if necessary, change strategy content to reflect the new environmental conditions.

While all strategies are based on information that is known to be true (i.e. knowledge) as well as assumptions about relationships and phenomena, the ratio of assumptions to knowledge underlying strategies will vary (McGrath and MacMillan, 1995). Similarly, while environments of all businesses are subject to change, the rate of change will vary across businesses. Since employing strategy content controls to check assumptions and monitor environmental changes can consume substantial managerial time and resources, it is advisable to design these controls to suit the particular needs of an organizations' strategy. In other words, it is important to decide how much attention and resources to devote to each of the two elements of strategy content control. It is this aspect of design that is portrayed in the framework shown in Figure 1 and discussed below.

The framework in Figure 1 shows four scenarios based on the ratio of assumptions to knowledge underlying a firms' strategy, and the extent of environmental change or uncertainty that the firm faces. The usefulness of this framework depends on being able to make reasoned judgments about the level of assumptions to knowledge and environmental change. While the particulars for a firm may vary to some degree, broad and useful generalizations can be made about the level of assumptions to knowledge and environmental changes that a firm may face based on a preliminary assessment of the firms' strategy and environment.

For example, strategies that move a firm into unfamiliar domains such as unfamiliar products, markets, and technologies are likely to involve more

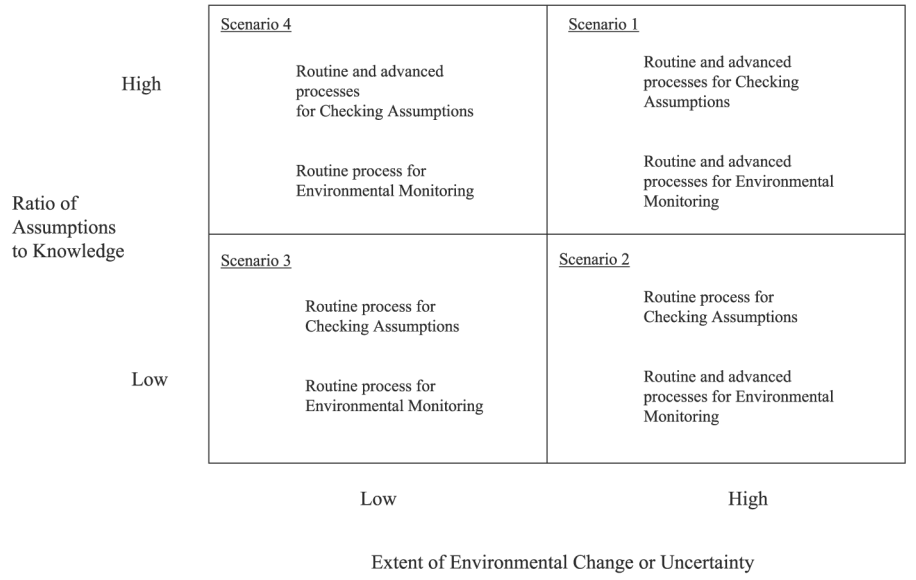

Figure 1.
Framework for designing strategy content control

assumptions to knowledge than strategies that keep the firm operating within its existing products, markets and technologies. Similarly, firms that operate in mature industries and country markets are likely to face less environmental change than firms operating in emerging industries and developing country markets.

Each of the four scenarios in Figure 1 is associated with a recommended combination of the use of checking assumptions and environmental monitoring. When the ratio of assumptions to knowledge and the extent of environmental change are both low (scenario 3), for example, strategy content control design that involves using routine processes for checking assumptions and environmental monitoring is advocated. When the ratio of assumptions to knowledge and the extent of environmental change are both high (scenario 1), in contrast, "advanced" processes for checking assumptions and environmental monitoring in addition to the respective routine processes are recommended. For scenario 2, where the ratio of assumptions to knowledge is low but the extent of environmental change is high, routine process for checking assumptions along with routine and advanced processes for environmental monitoring are recommended. For scenario 4, where ratio of assumptions to knowledge is high but the extent of environmental change is low, routine and advanced processes for checking assumptions along with routine process for environmental monitoring is recommended.

Routine and advanced processes for checking assumptions

The routine process for checking assumptions involves identifying key assumptions on which the strategy rests, collecting information during implementation to periodically check the validity of these assumptions, and changing strategy to reflect the new information and assumptions if original assumptions are found invalid. While this process may be sufficient when the ratio of assumptions to knowledge is relatively low, when the ratio of assumptions to knowledge is high a firm may need additional processes to lower the risk that it may be too late before invalid assumptions are uncovered by the routine process.

For example, when a firm's strategy calls for its entry into a new line of business, assumptions about the firm's ability to make a product that is accepted and demanded by customers will be critical. Information needed to check the validity of this assumption may not be available until the product is designed, engineered, manufactured and marketed. If the firm used the routine process of collecting information to check the validity of assumptions during the normal course of implementation, it may have to wait too long – until the products are designed, engineered, manufactured and marketed. It may be too late for the firm to reverse or correct its strategy by then. More advanced processes for checking assumptions may therefore be needed to supplement the routine assumption checking process in such cases.

Rapid results initiatives and phased sequential implementation are two supplementary processes that are particularly useful. Rapid results initiatives are a series of mini-projects that represent scaled-down versions of the strategy (Matta and Ashkenas, 2003). Each of these projects are designed to produce measurable results that are representative of results hoped for with the firms strategy, and are implemented within a short time frame. The implementation of these rapid results

initiatives replicate the expected implementation of the firms' strategy in miniature form and in a much shorter time frame, and hence will serve to expose assumptions that are not valid in good time to take corrective action. These initiatives are similar in spirit to concept testing or pilot testing for new products and design concepts, where one or a few models are produced to detect kinks in design and engineering as well as to gauge market response.

As an example of how rapid results initiatives work consider Johnson & Johnson's strategy for integrating quality assurance for two previously autonomous clinical R&D units whose personnel were spread around the world (Matta and Ashkenas, 2003). This was a major undertaking that called for many initiatives such as developing training standards and designing systems for standardizing previously disparate automated reports. Each of these initiatives would unfold over many years. Given the complexity of the strategy, there were many assumptions (including that the initiatives will add up to produce desired results) whose validity may not become known for a long time. To lower this risk, Johnson & Johnson used a number of rapid results initiatives, each aimed at integrating smaller chunks of the overall quality assurance process quickly in order to discover invalid assumptions. The discovery and learning from these initiatives could then form the basis to reconsider and modify the strategy for integration.

Phased sequential implementation aims to more quickly check the validity of assumptions by implementing parts of the strategy in sequential fashion. Honda Motor Co.'s strategy for its entry into the sports utility vehicle (SUV) market illustrates this approach. Although Honda was a very successful maker of passenger cars in the US market, the company lacked products in the profitable SUV segment. Entering this lucrative segment required Honda to design, engineer, manufacture, and market a new line of automobile significantly different from its passenger cars. This was a venture requiring substantial commitment in resources and time. Honda's knowledge in passenger car design, engineering, manufacturing, marketing, and service, will have to be supplemented with a number of assumptions regarding the SUV market. If any of these assumptions, in any part of the value chain, were wrong then Honda could loose substantial investments and risk the superior reputation it had earned in the passenger car market.

Honda handled this problem by adopting the phased sequential implementation process. Honda focused on marketing and service aspects of the strategy first by outsourcing an SUV from Isuzu and reselling and servicing it under its own brand name in 1994 (Bornhop, 1994). This meant that Honda could be in the SUV market much faster and therefore check its assumptions about the market's needs quickly. Honda then incorporated what it learned about the market to design, manufacture and market its own compact size SUV in 1997 and a larger SUV in 2003 (McCormick, 2002; Visnic and Gardner, 1997).

Routine and advanced processes for environmental monitoring

The routine process for environmental monitoring involves scanning the environment to detect changes in elements of the immediate environment, such as competitors, suppliers, distribution channels and buyers, as well as aspects of the remote environment such as macro economic, geopolitical, scientific, technological, regulatory, and socio-cultural sectors. The impact on strategy of environmental changes discerned

through scanning will need to be assessed, and strategy changed to reflect the new environmental circumstances. In most firms, scanning is done by line executives, who collect and share environmental information on an ongoing basis, and the impact of environmental change is discussed and strategy changes decided either periodically or when major environmental changes are encountered. This routine process may be sufficient when a firm's environment is relatively stable. When the environment is subject to more change, however, the frequency of changes and the impact of these changes on strategy are likely to be significantly higher. Consequently, firms operating in environments that experience, or are likely to experience, "high" levels of change would benefit from adopting more advanced processes to supplement the routine environmental monitoring process.

Advanced processes, to be effective, should reinforce and supplement information collection, analysis, and the response phases of the routine environmental monitoring process. Information collection can be enhanced by getting closer to sources of environmental change, which will allow firms to obtain early warnings of impending changes. For example, firms can become aware of impending legislative or regulatory changes more quickly if they maintain an active lobbying effort. Similarly, maintaining an active presence in technology consortiums can help firms recognize impending technology related uncertainties earlier. Relative to the routine environmental monitoring effort, these additional processes require firms to play a more active role in seeking out information on potential changes early.

Utilizing advanced processes such as scenarios development (Schomaker, 1993) to analyze potential impact of environmental changes can also be very useful to firms in unstable environments. Scenarios development can help identify important sources of environmental changes and thereby assist in directing and allocating environmental monitoring resources and efforts. The identification of important sources of environmental changes can also aid in preparing actions and responses to changes, as discussed next.

Actions or responses, in the routine environmental monitoring process, focus on and are typically limited to adapting strategy to environmental changes. Such a limited response may be insufficient for firms in highly unstable environments because of the frequency of environmental changes and the greater impact that such changes are likely to have on strategy. Firms in such circumstances will need to buffer their organizations from environmental changes by trying to shape the changes or their timing. Examples of ways to influence and shape the environment include lobbying to stall or modify proposed legislations and forming alliances and using selective licensing to shape or settle battles for technology standards.

Illustration of the framework

This section provides a brief illustration of the framework highlighting factors that help classify strategies into the four cells of the framework and some of the advanced processes for environmental monitoring and checking assumptions. Figure 2 presents four cases corresponding to the four design scenarios. Consider Disney's strategy for its theme park business in Honk Kong. Disney, in the late 1990s, announced a joint venture with the local government of Hong Kong to build a theme park. Disney will contribute $316 million for a 43 percent stake, while the Hong Kong government will invest $2.15 billion for a 57 percent stake in the project. The 310 acre, full-fledged

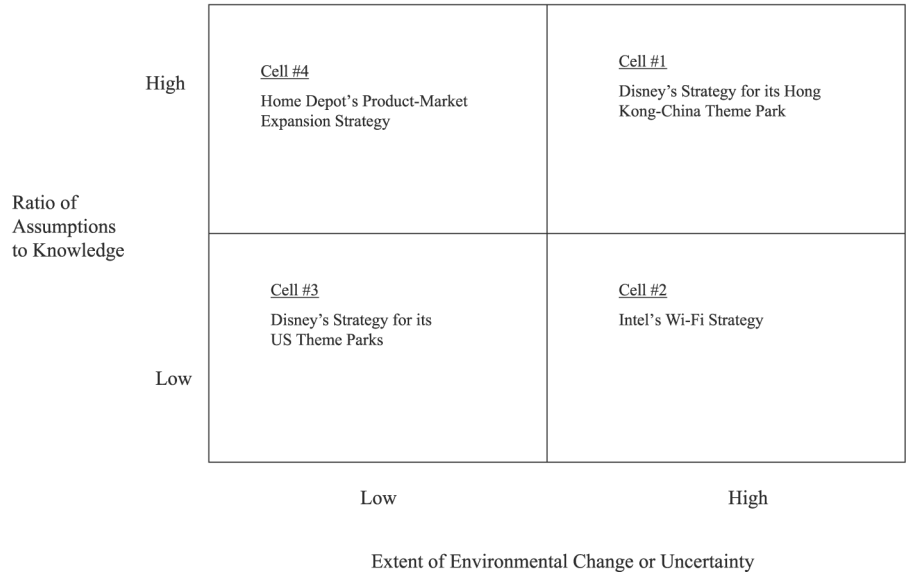

Figure 2.
An illustration of the framework: four brief case studies

theme park will be located on reclaimed land in Penny's bay on the Lantau Island of Hong Kong and is scheduled for opening in 2005 (Benini, 1999).

The theme park business is familiar to Disney, which in the USA has operated two of the most popular theme parks in the world. Operating a theme park in a different land with different cultures and systems, however, is difficult and involves making a number of assumptions. Disney's previous international venture illustrates this well. In 1992 Disney entered Europe with its theme park in France. Given the relative similarity of the European market to the US market, Disney expected a rather smooth startup and operation. To its surprise, many of its assumptions had been wrong. For example, Disney found that park attendance was 10 percent off from projections, per-person spending was less than half of expectations, hotel occupancy was just 37 percent compared to 97 percent in its US parks, labor costs were significantly higher than expected, and Disney's management practices were resisted strongly including legal challenges to its dress codes (du Bois, 1994; *Sloan Management Review*, 1998). In addition Disney found that Europeans bought a far smaller proportion of high-margin items such as T-shirts and hats than expected from retail stores in the park, and unlike US park visitors, Europeans did not "graze" food all day but flooded the park restaurants at noon for lunch. The park restaurants, which were designed with the US experience in mind, did not have enough seating capacity drawing the ire of visitors and resulting in bad publicity (McGrath and MacMillan, 1995). Because of these incorrect assumptions Disney suffered plenty in losses and reputation before the venture was eventually turned around. China is an even greater challenge than France, in terms of differences in culture, business practices, and political system. Consequently, Disney's Hong Kong venture is likely to involve a high ratio of assumptions to knowledge.

With respect to the external environment, China is a developing economy with massive potential but with many challenges. Unlike developed countries, economic

policy disruptions are more likely. For example, the Disney project faced possible delays when a disagreement arose between the Hong Kong government and legislators in 2001 over parts of the infrastructure outlays related to the Disney venture (Rogers, 2001). In addition, as illustrated by the recent and unexpected announcement by the Chinese central government that it will have to approve any changes to Hong Kong's political system, political risk is likely to be high (*Economist*, 2004). Given philosophical differences between the communist government of China and the US government, geopolitical tensions between the two countries, over Taiwan for example, could cause a backlash against Disney's interests in Hong Kong. Competition is yet another source of environmental uncertainty. While Disney is a giant among theme park operators, it is not alone in the industry. Given the large and growing demand for theme parks in Asia, other international companies such as Universal Studios have been very active in the region scouting for locations to expand. Many of these companies would want to position themselves in China to benefit from the surge in economic activity and tourism that will accompany the 2008 Beijing Olympics. Entry by Universal Studios into China to coincide with the Olympics, for example, would siphon off visitors from Disney Honk Kong and undermine the economic underpinnings of the project.

Thus, Disney's strategy for Hong Kong, in addition to involving a high ratio of assumptions to knowledge, is also subject to high environmental uncertainty (cell 1, Figure 2). Our framework, for such scenarios, recommends the use of advanced processes to supplement the routine processes for both checking assumptions and environmental monitoring. Consistent with recommendations of the framework, Disney is using the phased sequential implementation process to supplement its routine assumptions checking process. Disney will implement the overall plan for its Hong Kong theme park in two sequential phases. The first phase will include a theme park, a number of hotel rooms, and a retail, dining and entertainment complex. The second phase will include an additional theme park, and expansion to the entertainment complex and hotel rooms (Emmons, 2001). Learning from the first phase of implementation will be used to adjust and change phase two plans. Also, consistent with recommendations of the framework advanced in this paper, Disney has utilized advanced processes to supplement routine environmental monitoring. Specifically, to deal with competitive uncertainty, Disney has held and announced talks with Shanghai's local government to build a theme park in that city by 2008 (*Business China*, 2002). This could be an effort to signal Disney's intent to enter main land China in hopes of dissuading rivals such as Universal Studios who might plan their own entry into China in time for the 2008 Olympics. Also, by taking on the local government as a joint venture partner in its Honk Kong theme park, Disney has enhanced its ability to monitor and buffer itself against environmental uncertainties stemming from political and policy risks.

Disney's strategy for its US theme parks provides a stark contrast to Disney's Hong Kong business. Although Disney's US market strategy involves a number of additions and changes to existing attractions at its theme parks in Florida and California, these are largely consistent with Disney's technical expertise in a business context that is very familiar to Disney (O'Brien, 2003). Consequently, the ratio of assumptions to knowledge underlying this strategy is low. In addition, the stable business environment in the USA, combined with the mature status of the US theme park

industry suggests that Disney does not face high environmental uncertainty in its US theme park strategy. Disney's strategy for its US theme park business, therefore, is an example of the scenario with low assumptions to knowledge and low environmental change (cell 3, Figure 2). The framework recommends the use of routine processes for both environmental monitoring and checking assumptions. Research using published material on Disney's actual practices suggests that, in line with these recommendations, Disney uses just the routine processes for assumptions checking and environmental monitoring in this case.

Intel's strategy for its evolving wireless internet (Wi-Fi) business illustrates a context where the ratio of assumptions to knowledge is low but environmental uncertainty is high (Cell 2, Figure 2). Intel, the leading manufacturer of microprocessors in the world, recently began marketing microprocessors with embedded wireless transmitters. These microprocessors, trademarked Centrino, signal Intel's entry into the wireless internet market. The Wi-Fi chip market is fairly competitive, and specialized firms such as Atheros, Broadcom, and Conexant presently hold leading market positions. While Intel is a bit late to the market, most analysts expect Intel to surge ahead given the relevance of its existing capabilities to this new product market, its dominant position in microprocessors, and its strategy to embed Wi-Fi transmitters within its microprocessors (Molta, 2004).

The technological standards for various Wi-Fi hardware that need to operate together to provide a secure and seamless wireless experience, however, is still evolving. The types of technological standards that emerge and whether they will complement Intel's own Wi-Fi chips are therefore critical environmental uncertainties. Thus, while the requirements for creating and marketing Wi-Fi enabled processors are well within Intel's existing capabilities (suggesting low assumptions to knowledge), environmental uncertainty is high.

Our framework suggests that, in this context, routine process for checking assumptions is sufficient but there is a need for advanced environmental monitoring processes to supplement routine environmental monitoring. Consistent with this recommendation, Intel is using advanced processes to supplement routine environmental monitoring. Specifically, Intel has actively sought to influence the development of related technologies and products that will complement its own Wi-Fi product. Through its Intel communications fund, Intel announced that it would allocate $150 million to fund firms pursuing technologies and products that are related and complementary to its own WiFi offerings (*Electronic News*, 2003). Mark Christensen, Intel's Vice President and Director of Intel Capital's communications sector articulated the rationale for these investments as follows:

> These investments are part of Intel's efforts to help accelerate the deployment of high-speed wireless networks worldwide … The products and services these companies provide will complement Intel Centrino mobile technology, which debuts March 12. These companies represent the ecosystem of Wi-Fi companies that will make widespread adoption of wireless broadband a reality (*Electronic News*, 2003).

While Intel appears to have assessed the uncertainty about technology and complementary products well, it appears to have been surprised by uncertainty from another source. Despite Intel's growing investments in, and dependence on, the developing country market of China, and China's track record of pressuring high technology firms to share intellectual properties and technologies with domestic

corporations, Intel did not share the concerns of many on intellectual property protection in China (Pfeiffer, 2002). However, in November 2003, citing problems with security, China mandated that firms selling Wi-Fi chips there will need to incorporate China's own proprietary encryption standard and that foreign chip makers will have to team up with one of 24 domestic partners to ensure that their chips incorporate the new standard by June 1, 2004 (Edwards *et al.*, 2004). This would mean that Intel and other foreign firms would have to share their intellectual property with one of 24 domestic firms – a prospect that has made Wi-Fi providers nervous (Edwards *et al.*, 2004).

Despite lobbying through the semiconductor industry association, and intervention from the US government, the issue remained unresolved by the June 1 deadline set by China. Intel, in March 2004, citing various technical reasons and concerns including the need to share intellectual property, announced that it will be unable to meet the June 2004 deadline to comply with the new policy, and that it does not have either a schedule or a roadmap to produce such products (Davis, 2004). This, in effect, has locked out Intel's Centrino chip from the important Chinese market. Our strategic control framework suggests that, as a developing country, China is likely to be an environment with high uncertainties. Indeed, closer study of China's policies in other high technology industries such as cellular phones and DVD players will have indicated that China may have concerns with wireless standards, and therefore, Chinese government policies were indeed a potential source of environmental uncertainty (Edwards *et al.*, 2004; Kessler, 2004). This in turn, our framework suggests, should have prompted Wi-Fi vendors such as Intel to work with China early on to address any legitimate national security concerns in a manner that will also address the intellectual property concerns of foreign firms. Such an advanced process of environmental monitoring may have prevented the disruption that Intel has experienced in its Wi-Fi business as a result of China's new encryption policy.

Home Depot's strategy for expanding its product markets offers an example of strategy in cell 4 of our framework. Home Depot is the largest retailer of home improvement products in the USA. The company has revolutionized the industry with their unparalleled selection of products (over 30,000) in large warehouse type stores, which also provide "do-it-yourself" customers with help and in-store clinics to develop their home improvement skills. While this business has been very successful for Home Depot, the company has looked to expand beyond home improvement stores to sustain rapid growth (Gibbs, 1997; Wilensky, 1995). Home Depot's expansion has focused on related businesses in more specialized product categories such as home furnishings and supplies for professional builders and contractors.

Home Depot's product market expansion is limited to the US market, which is a rather stable environment for the industry. Although the related nature of the businesses into which Home Depot is expanding renders some of the company's experience and knowledge relevant, the strategy also rests on many critical assumptions. For example, will the large square foot stores that the company is experienced with lend themselves to the new product markets? Will the warehouse style merchandizing work for the more specialty items such as home furnishings? Could these new businesses cannibalize sales and customer traffic from the company's more general home improvement stores? Are the types of locations in which the company builds home improvement stores appropriate for the more specialized stores? Are there synergies in logistics and back office operations between the new stores and

the traditional home improvement stores? Would these specialty stores complement or corrupt the brand identity of the original home improvement business?

Given the low environmental uncertainty and the high assumptions to knowledge underlying the strategy, our framework recommends using routine environmental monitoring process but supplementing the routine assumptions checking process with advanced processes. Consistent with our recommendations, Home Depot uses a version of the rapid results initiative. Home Depot's practice in its well established home improvements business involves opening hundreds of stores a year to quickly penetrate markets and then use operating information and experience to validate its assumptions and fine tune elements of its strategy for each location. In contrast, for the new product markets, Home Depot opens just a few stores in a handful of locations to experiment with various formats and thereby check the various assumptions mentioned earlier. Once a critical mass of knowledge is accumulated from these "concept stores", decision on a national roll out of the strategy is taken. For example, in entering the home furnishing business, Home Depot sequentially built three concept stores under the brand name "Expo Design Center" in three different regions of the country (San Diego in the west coast, Atlanta in the south, and Westbury New York in the east coast). After experimenting with various concepts in these stores for three years, Home Depot was ready for a national roll out of its strategy for the home furnishing business with a decision to open 200 Expo Design Center stores nationwide in the next thirty months (Halverson, 1998).

Conclusion

This paper developed and illustrated a framework to help design strategy content controls. Given the rapid globalization of markets and the growing convergence and change in industries and technologies, firms will increasingly need to move beyond familiar domains into new markets and develop new capabilities to survive or ride the Schumpeterian tides of creative destruction (Hamel and Prahalad, 1994; Raynor, 2002). Such strategies are likely to be based more on assumptions than knowledge and require firms to cope with more environmental uncertainty than strategies in familiar businesses in developed country markets. Firms will need to continuously shape such strategies to reflect their evolving understanding of the new domain and the changing environment. Consequently, there is an urgent need to develop tools that help managers shape and control the content of strategies. The framework developed in this paper represents a beginning in this important endeavor.

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Appendix. Tools for designing strategy implementation controls

The earliest and the most popular model of strategy implementation control, whose development dates back to early works on scientific management by Henri Fayol and others, is the cybernetic process (Green and Welsh, 1988). Strategy implementation control designs based on the cybernetic model involve a three-step process. First, standards of performance necessary to implement strategy are articulated. Second, actual performance is measured. Third, deviations of actual performance from standards are used to inform corrective action.

Ouchi (1977) expanded upon the cybernetic model (see also Snell, 1992). In Ouchi's model, two types of performance standards can be set – quantitative output standards, and behavioral norms or standard operating procedures. Actual performance can also be measured either in terms of quantitative outputs or in terms of monitoring behavior. For those strategic initiatives where it is possible to articulate output standards and measure actual outputs, the cybernetic process involving quantitative output standards and measures are recommended. For those initiatives where setting output standards or measuring actual outputs is a problem, cybernetic process with behavioral standards and behavior monitoring is recommended. To use the cybernetic process with behavioral standards and behavior monitoring, however, the organization must be able to articulate the processes or behavior required for successfully implementing strategy and monitor conformity with these behavioral expectations. For those strategic initiatives where neither output based cybernetic process nor behavior based cybernetic process can be used, Ouchi's model recommends relying on non-cybernetic processes such as organization culture and socialization as a way of reducing the need for control.

Kaplan and Norton (1992, 1993, 1996) developed the balanced score card based on the basic cybernetic model of strategy implementation control. They suggest that it is important to establish performance standards and measure actual performance in four broad areas -financial, customers, internal business processes, and learning. Kaplan and Norton (1996) also provide ideas on how to arrive at performance standards and measures that reflect strategy and how to link performance standards and measures across various levels of the organization.

The three models for strategy implementation control design reviewed here represent major categories in the sense that there are many variations and extensions of these three base models that one can find in the literature.